

**Evidence-Based Decision Making in Community Colleges:
Findings from a Survey of Faculty and Administrator
Data Use at Achieving the Dream Colleges**

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Executive Summary

Responding to calls for increased accountability from policymakers, accreditation agencies, and the public, colleges and universities are beginning to use evidence of what works to improve student success to design, manage, and improve educational programs and services. “Building a culture of evidence” to improve student success requires fundamental changes in the way that faculty, administrators, and support services staff use student data in decision making.

Few empirical studies have been carried out on evidence-based decision making in the postsecondary sector. The study reported on here, conducted by researchers from the Community College Research Center and MDRC, examines what specific data college faculty and administrators use in their jobs and the extent to which they use data analysis to design and improve the impact of programs and services. The study is based on a survey on the use of student data by faculty and administrators at 41 community colleges participating in Achieving the Dream: Community Colleges Count. Achieving the Dream is a major national initiative designed to improve educational outcomes for community college students, particularly students of color, low-income students, and others who have traditionally faced barriers to success in college. Twenty-seven of the surveyed colleges joined the Achieving the Dream initiative in summer 2004 (Round 1), and 13 joined in summer 2006 (Round 3). In addition to the surveys, structured telephone interviews were conducted with administrators and faculty at four of the colleges that participated in the survey to explore in greater detail key findings from the survey.

Achieving the Dream places particular emphasis on two types of data analysis: longitudinal analysis and analysis by subgroup. In longitudinal analysis, entering cohorts of students at a college are tracked from semester to semester to determine what percentage are achieving critical benchmarks, including retention benchmarks, the completion of remedial and college-level “gatekeeper” courses, and the completion of college credentials and degrees. Analysis by subgroup is used to determine whether students in various ethnic or racial, income, or other categories are achieving success at comparable rates or whether there are gaps in their achievement levels. Achieving the Dream encourages participating colleges to broadly engage faculty, student services staff, and administrators in examining data on student progression, in formulating strategies to address achievement gaps, and in evaluating the effectiveness of such strategies. Colleges are also expected to use evidence of what works to improve student success as the basis for academic program review, strategic planning, and budgeting, and thereby bring to scale and sustain proven strategies.

The survey used in this study, which was administered by the Human Resources Research Organization (HumRRO), was conducted over a five-month period beginning in September 2007. It asked full-time faculty and administrators about what student data they use, how accessible data on students are at their college, how they use data in their jobs, and what types of data they find most useful. It also asked respondents about their familiarity and involvement with Achieving the Dream. The survey received a very favorable response rate, with 60% of faculty and 73% of administrators surveyed responding. In fall 2011 we plan to conduct another survey of the 13 Round 3 colleges in order to observe changes over time (the survey design allows us to match participants’ responses in 2007 with those in 2011).

Results from the present study suggest that relatively high proportions of faculty and administrators at Achieving the Dream colleges use data on student outcomes:

- *More than half of surveyed faculty members reviewed or used data on placement test scores, retention rates, graduations rates, and measures of student learning other than grades at least once a year.*
- *About half of faculty and administrators used data on student achievement gaps on an annual basis.*
- *About two thirds of faculty and administrators used outside research on effective practices at least annually.*

The high rate of data use at the colleges surveyed is perhaps not surprising, given their involvement in an initiative premised on the importance of broadly engaging faculty and staff in using data and research to improve the quality of programs and services:

- *Faculty and administrators who were involved in Achieving the Dream used data on student outcomes more frequently and participated in organized discussions on improving student outcomes much more frequently than did their colleagues who were not involved in the initiative.*

At the same time, not all participants in Achieving the Dream were heavy data users, and more generally, there was considerable variation among individual faculty and administrators in the extent to which they used student data. The telephone interviews revealed that there may well exist a strong resistance to using data among some faculty. They also suggest that, despite survey findings that seem to indicate otherwise, many faculty and administrators may be uncomfortable in analyzing data. Contrary to expectation, we did not find much of a correlation between a faculty member's rank or length of time having worked at the college and the extent to which he or she used data.

In terms of an overarching commitment to evidence-based decision making, the findings suggest that there is only a limited connection between the extent of data use by faculty and administrators at Achieving the Dream colleges and the views and management practices of college leaders:

- *There is only a weak correlation between various indicators of data use and the extent to which respondents indicated that their college overall uses data on outcomes to evaluate programs.*
- *There is little correlation between the extent to which administrators said that their college uses data for program-related decisions and the frequency with which they themselves used data.*

A central premise of Achieving the Dream is that commitment by a college's leadership and the way that a college approaches program evaluation, strategic planning, and budgeting are key to encouraging the use of data for improvement by college personnel. Our findings suggest that leadership commitment and a data-oriented approach to institutional management may not in themselves be sufficient to encourage faculty and administrators to become more data-oriented in practice. Additional efforts at the department level are probably needed to change the behavior of faculty in particular. Indeed, we found that faculty in developmental education departments and for-credit occupational programs were more frequent users of data than were faculty in other types of departments, particularly those in general education. The finding concerning developmental faculty is not surprising given that improving developmental instruction has been a major focus of Achieving the Dream. It may well be that a similar intensive focus on improving outcomes is needed to change practices and to influence the culture in other departments.

In examining the extent of data use among the colleges in our sample, we ranked them by institution-level averages on four indicators of data use by faculty and administrators that we developed in this study. We did not, however, find much consistency in the rankings by these four indicators. This suggests that different colleges in the sample may have emphasized different dimensions of data use. In terms of institutional-level results, contrary to our expectation, faculty and administrators at larger colleges were not, on average, heavier users of data than faculty and administrators at smaller colleges.

Although colleges with higher levels of participation in Achieving the Dream by faculty and administrators did not exhibit higher average rates of data use, we did find that colleges that joined Achieving the Dream in Round 1 had higher rates of data use than the Round 3 colleges on three of the four indicators. This is consistent with (although it does not prove) the hypothesis that colleges that have been involved in Achieving the Dream longer are more advanced in their use of data in improving student success. It also suggests that engaging faculty and staff in using data and building a culture of evidence is a complicated process that requires concerted effort over a long period of time.

1. Introduction and Background

Over the past two decades, public education in the U.S. has been under increasing pressure to bring about and document improvements in student outcomes. The federal No Child Left Behind Act of 2001 requires states to monitor the performance of elementary, middle, and high schools based on standardized test scores and to remediate and, if necessary, reorganize or close schools that are unable to narrow student achievement gaps. Public higher education institutions have not been immune from the push for greater accountability. State and local policymakers, accreditation agencies, and boards of trustees are all seeking evidence of improved student outcomes.

An increasing number of public schools and colleges and universities are responding to these demands. Borrowing from management techniques first employed in private industry and capitalizing on advances in information technology, many are beginning to use data analysis to design, manage, and improve educational programs and services. Instituting a “data-driven” or “evidence-based” approach to decision making aimed at increasing student success requires fundamental change in the way that these educational institutions operate. Proponents sometimes refer to this thorough-going organizational change process as “building a culture of evidence.”

1.1 Research Related to Present Study

There is a growing body of research on the efforts to use data and research to improve student outcomes in public education. Most of the studies to date have focused on the K-12 sector. Several explore the conditions under which teachers and administrators in schools use data to assess and improve student progress, and provide guidance on how this can be done more effectively (Bettesworth, 2006, 2007; Coburn, Toure, & Yamashita, in press; Farley-Ripple, 2008; U.S. Department of Education, 2004). Other studies have revealed important barriers to the effective use of data for improvement in schools, including a lack of quantitative and analytical skills on the part of teachers (Wayman & Stringfield, 2006a, 2006b) and absence of useful data (Ingram, Louis, & Schroeder, 2004).

Young (2006) focused attention on how organizational contexts, again in the K-12 sector, can positively and negatively influence the use of data in schools. Young concluded that the technology environment and the culture of a school, including its norms and values, must change in order to successfully use data to improve instruction. Young recommends that districts should support principals’ commitment to new practices and recognize that principals require additional skills to successfully incorporate such practices into their schools (p. 544). Furthermore, Young holds that districts should clarify principals’ accountability for successful implementation of data-driven practices. Young also argues that organizational change must influence what teachers do on a daily basis so that using data in decision-making becomes accepted as part of the role and norms in teaching (p. 545). In another recent study concerning K-12 schools, Coburn and Talbert (2006) examined what constitutes valid evidence in decisions about improving student success and how considerations of validity are influenced by organizational and individual differences.

There is growing interest in evidence-based decision making in postsecondary education as well. A number of recent publications on the topic, based on informal case studies or on the professional experience of the authors, provide encouragement and guidance to colleges and universities seeking to build a culture of evidence (Allen & Kazis, 2007; Dwyer, Millett, & Payne, 2006; McClenney, McClenney, & Peterson, 2007; Millett, Payne, Dwyer, Stickler, & Alexiou, 2008; Petrides, 2004). Some of the recent scholarly work has considered the roles of various institutional actors engaged in organizational change. For example, Bensimon (2007) has argued that practitioners are in a better position than educational researchers to know how to bring about changes in practice that benefit students, particularly those students with a history of educational disadvantage and marginalization. According to Bensimon, it is therefore critical that practitioners “develop context-dependent knowledge and experience about how to facilitate student success” (p. 464). In a review of the literature, Dowd and Tong (2007) examined evidence-based decision making and accountability at the postsecondary level; they provide a normative argument supporting the idea that data are best used to support student success when faculty and staff work together through “evidence-based inquiry councils.”

There are, however, only a handful of larger-scale empirical studies on evidence-based decision making in higher education. In one study, Petrides and Nodine (2005) examined how faculty, administrators, and staff in a community college district in California used student outcomes data for decision-making. In 2000, the researchers interviewed 70 college personnel and administered a survey to 220 faculty, administrators, and staff. In 2002, they conducted another study of data use in a large, urban community college district. This time they interviewed 27 faculty, administrators, and staff about how data retrieval had changed since the implementation of a decision support system and a data warehouse in 1998. Their four key findings from these two studies are that 1) external accountability mandates do not necessarily result in improved data use; 2) even when there are “information bottlenecks” at a college, people find “workarounds” that include manual data collection and manipulation and local database creation; 3) even in districts that are committed to a data driven environment, significant barriers remain, which include concerns about the ability to use technology and data, concerns about “information overload,” and concerns that data are perceived as unreliable; and 4) the “information culture” and the support for evidence-based decision making within districts is influenced by the district leadership.

In another study, Goldstein (2005) presented results of a national survey of senior IT managers at more than 380 postsecondary institutions on the use of data, the technology and tools that support data collection and analysis, and the degree to which data support decision making. The study found that the use of data in decision making about college programs and practices, or what are called “academic analytics,” provides colleges and universities with a competitive advantage, at least as perceived by the interview subjects. The research suggests that the factors most strongly associated with an institution’s perceived success in implementing academic analytics are training, leadership commitment, and staff with strong analytical skills.

None of the empirical research to date has examined in depth what specific data college faculty and administrators use in their jobs and the extent to which they use data analysis to design and improve the impact of programs and services. The report presented here offers findings from a study designed to fill that gap in the knowledge base. The study was based on a survey and on

telephone interviews about the use of student data by faculty and administrators at community colleges participating in Achieving the Dream: Community Colleges Count. Achieving the Dream is a major national initiative designed to improve educational outcomes for community college students, particularly students of color, low-income students, and others who have traditionally faced barriers to success in college.¹

1.2 Achieving the Dream and Organizational Change

Achieving the Dream encourages colleges to undertake the following five-step process to bring about changes in policy and practice that lead to improved student success.

Step 1: Commit to improving student outcomes. The college’s senior leadership, with support from the board of trustees and faculty leaders, commits to making the changes in policy and resource allocation necessary to improve student outcomes, communicates the vision widely within the college, and organizes teams to oversee the process.

Step 2: Use data to identify and prioritize problems. The college uses longitudinal student cohort data and other evidence to identify gaps in student achievement. A key premise of Achieving the Dream is that once faculty and staff see that certain groups of students are not doing as well as others, they will be motivated to address barriers to student success. To ensure that they utilize their resources to greatest effect, colleges are encouraged to prioritize the student achievement problems that they plan to address.

Step 3: Engage stakeholders in developing strategies for addressing priority problems. The college engages faculty, staff, and other internal and external stakeholders in developing strategies for remedying priority problems with student achievement, based on a diagnosis of the causes and an evaluation of the effectiveness of previous attempts by the institution and others to address similar problems.

Step 4: Implement, evaluate, and improve strategies. The college then implements the strategies for addressing priority problems, being sure to evaluate the outcomes and using the results to make further improvements.

Step 5: Institutionalize effective policies and practices. The college takes steps to institutionalize effective policies and practices. Attention is given to how resources are allocated to bring new initiatives to scale and sustain proven strategies. The processes of program review, planning, and budgeting are driven by evidence of what works best for students.

Achieving the Dream expects that by following these steps, colleges will be able to build a “culture of inquiry and evidence” that will lead to continuous improvements in student success.

Achieving the Dream’s five-step model shares principles with the Total Quality Management (TQM) movement and other quality improvement programs such as the Baldrige Award and Six Sigma. The quality improvement movement in postsecondary education is exemplified by the

¹ More information on the initiative is available at www.achievingthedream.org.

Academic Quality Improvement Program of the Higher Learning Commission of the North Central Association of Colleges and Schools, the Quality Enhancement Plan of the Southern Association of Colleges and Schools, and by the Equity Scorecard initiative (Bensimon, 2004, 2005; North Central Association of Colleges and Schools, Higher Learning Commission, 2008; Sallis, 2002; Southern Association of Colleges and Schools, Commission on Colleges, 2008; U.S. Department of Commerce, 2006). Each of these models includes a process of data gathering to yield a more informed understanding of problem areas, a selection of solutions based on the data, and the adoption of an organizational feedback loop in which processes are continuously evaluated and improved.

Over 80 colleges in 15 states are currently involved in the initiative, which is supported by Lumina Foundation for Education and other funders. Participating colleges are asked to undergo a year-long process of data analysis and planning, followed by a four-year process in which they are expected to implement, evaluate, and, where appropriate, bring to scale strategies for improving student success. Achieving the Dream provides financial support to the colleges, including a planning grant and an implementation grant totaling \$450,000 over five years to support data collection and analysis and implementation of improvement strategies. A coach and a “data facilitator” are assigned to help each institution, and colleges receive further guidance through participation in an annual strategy institute, where they share experiences and findings with other colleges.

1.3 About This Report

In the study reported on here, researchers surveyed full-time faculty and administrators at 41 Achieving the Dream colleges in 7 states. These included 28 colleges that joined the initiative in the first round (in summer 2004) and 13 colleges that joined in the third round (in summer 2006). The survey asked full-time faculty and administrators about what student data they use, how accessible data on students are at their college, how they use data in their jobs, and what types of data they find most useful. The survey also asked respondents about their familiarity and involvement with Achieving the Dream, and it asked for their views more generally on reform efforts at their college to improve student success. The survey was conducted over five months beginning in September 2007. It received a very favorable response rate, with 60% of faculty and 73% of administrators surveyed responding. To our knowledge, this is the most extensive survey to date on the use of data and attitudes toward data use by college faculty and administrators. In fall 2011 we plan to conduct another survey of the 13 Round 3 colleges in order to observe changes over time (the survey design allows us to match participants’ responses in 2007 with those in 2011).

In addition to the surveys, structured telephone interviews were conducted with administrators and faculty at four of the colleges that participated in the survey. The purpose of these interviews was to explore in more depth key findings from the survey.

This report is organized as follows. Section 2, following this introduction, presents the methodology used in this study. Section 3 describes the main findings on general patterns of data use by faculty and administrators at the Achieving the Dream colleges. Section 4 examines

factors associated with the use of student outcomes data by faculty and administrators. Section 5 explores why data use by faculty and administrators is more extensive at some colleges than at others. Section 6 presents findings from the in-depth telephone interviews with faculty and administrators at four of the colleges. The final section, 7, presents our conclusions and discusses the implications of efforts by community colleges to improve student success.

2. Methodology

This section describes the methodology used for the survey of faculty and administrators and for the in-depth telephone interviews; these were the main sources of data for the study.

2.1 Survey of Faculty and Administrators

To examine patterns of and reasons for data use by faculty and administrators at Achieving the Dream colleges, we designed a survey to be delivered using self-administered, on-line instruments.

The CCRC/MDRC research team developed two survey instruments through a process involving extensive internal review and revision. The instruments were pilot tested in spring 2007 with faculty and administrators at three second-round Achieving the Dream colleges, and were further revised based on the responses and feedback from institutional researchers at the pilot colleges.

The administrator instrument contains 100 items and the faculty instrument contains 101 items, most of which overlap. Both instruments ask questions on three main topics: 1) data accessibility; 2) data use and usefulness, and 3) familiarity with and involvement in Achieving the Dream. Most items use a 7-point Likert scale, although some are yes/no questions. Both instruments also ask for demographic information about the respondent and include an open-ended question about both the use of data at the respondent's college and views on Achieving the Dream.

The sampling frame included administrators and full-time faculty members at the colleges that joined the Achieving the Dream initiative in Round 1 (in summer 2004) and in Round 3 (in summer 2006). Three of the Round 1 colleges declined to participate in the survey, leaving 28 Round 1 colleges in five states (Florida, New Mexico, North Carolina, Texas, and Virginia) and 13 Round 3 colleges in two states (Pennsylvania and Washington).

The survey was administered by the Human Resources Research Organization (HumRRO). HumRRO also participated in the final stages of questionnaire development. They were responsible for the web programming to permit online administration of the survey, maintenance of the online survey, management of the paper versions of the survey and of the telephone administration of the survey. They also served as the primary contact for survey questions and technical difficulties. In January 2008 they provided CCRC with an interim dataset, and in February 2008 they provided the final dataset.

We asked colleges to provide names, titles, and email addresses for full-time faculty members and administrators. For the purposes of this survey, we defined "administrator" as anyone at the assistant/associate director level and above, but we allowed the colleges to decide whom to include in this category. In cases where a college provided us with all non-faculty positions, we edited the list of administrators based on the job titles provided to us. This generated 2,209 full-time administrators.

We confined the faculty survey to full-time faculty members, since many colleges do not collect contact information on adjunct faculty at the college level. Due to the large number of faculty in some of the larger colleges involved, we used a single-stage sampling procedure to reduce the number of faculty who were invited to participate in the study. We randomly selected 150 faculty members at the colleges with faculties larger than 150 by automatically generating random numbers for each individual and then selecting the first 150, the minimum number we estimated was needed to ensure statistical rigor. We deleted individuals who were no longer affiliated with a given college or were on a leave and selected the next person on the list as a replacement. This process of replacement continued only during the pre-survey phase, when we were testing email addresses; once the survey was deployed, no replacements occurred. Through this process, we invited 4,130 full-time faculty members to participate in the study.

The survey was administered beginning in September 2007. To encourage a high response rate, we used a multi-phase administration process. It began with a preliminary email designed to give advance notice of the survey and to test the list of email addresses we had received from the colleges. The next communication, one week later, was an email with the URL for the survey and a unique password for each respondent. The third email was sent as a follow up one week later to everyone who had not yet responded. A fourth email was sent one month after the initial invitation. One week later, letters with a hard copy of the survey enclosed were mailed to all non-respondents. The mailing of the hard copy letters coincided with a request to the college presidents to encourage their faculty and administrators to complete the survey. Phone administration of the survey to those who had not yet responded began just over two months after the initial email was sent. At this time, we were approaching winter break, so we suspended efforts to contact the faculty and administrators at the colleges until after the new year. We sent a final email to all non-respondents and finished the survey with a final one-week phone administration in the week following the February 2008 Achieving the Dream Strategy Institute, which teams from every participating college attended.

The survey achieved a response rate of 60% from the faculty surveyed and a 73% response rate from the administrators. Response rates varied considerably by college. Responses to the faculty survey ranged from a low of 37% at one college to a high of 85% at another. College response rates to the administrator survey ranged from 57% to 93%. Response rates by college are provided in Appendix B.

Respondent demographics of faculty and administrators were fairly similar across colleges. Of the faculty respondents, 56% were female, and of the administrators, 62% were female. The majority of faculty and administrator survey respondents, more than 78%, identified themselves as White. The next largest group comprised those who identified themselves as Hispanic/Latino/Spanish; they made up 12% of the faculty and 15% of the administrators. Black, Asian or Pacific Islander, and American Indian or Alaskan Native faculty comprised 8%, 3 %, and 2% of the faculty respondents, respectively. Black administrators made up 12% of the administrator respondents. Asian or Pacific Islanders and American Indian or Alaskan Natives made up 3% and 1% of administrator respondents, respectively. Ten percent of faculty and 8% of administrators identified themselves as “other.”

More than 62% of the faculty who completed the survey taught in academic transfer/general education areas. Administrators involved in academic affairs and instruction made up 20% of the respondents, and those in student affairs/student services accounted for 18% of the respondents. The institutional research/effectiveness staff accounted for just over 3% of the respondents. Additional demographic information is available in Appendix C.

2.2 In-Depth Telephone Interviews

To explore the survey findings on the patterns and determinants of data use in greater detail, we conducted in-depth telephone interviews with key personnel at four colleges that participated in the survey.

These four colleges were selected on the basis of four criteria. First, the colleges are all first-round participants in the initiative. This means that they have been exposed to the concept of a culture of evidence for almost four years. This was important because creating a culture of evidence requires fundamental organizational change, so colleges needed to have had time to adopt such a culture.

The second and third criteria influenced the selection of the states in which the colleges are located. Note that the Round 1 Achieving the Dream colleges were drawn from five states: Florida, New Mexico, North Carolina, Texas, and Virginia. The states chosen for telephone interviews were selected on the basis of their accrediting region. New Mexico and Virginia were selected because they are in regions with accrediting agencies that were the earliest to adopt guidelines relating to the use of data and evidence to improve student outcomes. We hypothesized that the longer the accrediting region had these guidelines in place, the stronger the pressure on colleges in these states would be to use data to support improving student outcomes. New Mexico is under the North Central Association of Colleges and Schools' Higher Learning Commission (NCA-HLC). Virginia is a member of the Southern Association of Colleges and Schools (SACS). NCA-HLC and SACS were the first of the regional accreditation agencies to have focused attention on the use of evidence for improving student outcomes (Biswas, 2006). Also, both states have adopted performance funding policies within the past three years. Such policies require colleges to report performance data, and they tie a certain percentage of funding for colleges to their performance. Together, these criteria were important because they suggest that these are states in which colleges are strongly encouraged to use data to document and improve performance.

Finally, the colleges selected represent a range of sizes within each state. We hypothesized that smaller colleges would have an easier time promoting data use as part of the initiative because there would be fewer communication and coordination issues.

Once the colleges were selected we identified potential interviewees at each college based on the functions they carried out. They did not need to be active participants in Achieving the Dream. Persons we interviewed included the administrative leadership of the college, including the president and vice presidents, the Achieving the Dream coordinator, institutional research staff, information technology staff, student services personnel, and a mix of faculty teaching developmental and non-developmental education courses. We created interview protocols for

each position and asked questions about interviewees' use of data, their perceptions about the decision-making process at the college, and the role of Achieving the Dream and other initiatives in supporting data-based decision making at each college. These interviews were conducted in the summer and fall of 2008.

We interviewed 17 faculty members and 25 administrators. The interviewees included a mix of individuals who had and had not been directly involved with the Achieving the Dream initiative. The faculty we interviewed taught either developmental or college-level math or English. The senior administrators we interviewed included, at each college, the senior academic officer, the senior student services officer, the director of institutional research, the Achieving the Dream coordinator, and at least one member of the student services staff.

3. Patterns of Data Use by Faculty and Administrators

This section presents descriptive statistics of survey responses from faculty and administrators at Achieving the Dream colleges to questions concerning the use of data and research on students by themselves, their departments, and their colleges.

3.1 Use of Data by Faculty and Administrators

Frequency of data use by type

Use of student outcomes data by faculty and administrators at the surveyed Achieving the Dream colleges was perhaps more widespread than expected based on our earlier findings in a baseline evaluation of first-round Achieving the Dream colleges (Brock et al., 2007) and based on feedback from the coaches and data facilitators about the colleges' use of data and research. Table 1 shows the percentages of faculty and administrators who indicated using or reviewing various sorts of information at least once a year as well as the percentage who said they never use a given type of information. Not surprisingly, high percentages of faculty reviewed or used grades and course evaluations at least once a year, while the majority of administrators reviewed information on college finances at least annually. What might be more unexpected is that more than half of faculty used data on placement test scores, retention rates, graduation rates, and measures of student learning other than grades, among other types of student outcomes data, once a year or more. Still, over a third of faculty never used measures of student learning other than grades and never looked at information on students broken down by race or ethnicity, and nearly a third never reviewed data on student achievement gaps.

Most faculty and administrators reviewed enrollment data at least once a year. About two thirds of faculty and administrators used outside research on effective practices at least annually. About half of faculty and administrators reviewed or used data on student achievement gaps on at least an annual basis. Administrators were more likely than faculty to use research produced by their own college.

Table 1. How often do you review or use the following types of information in your job?

Type of Information	Percentage of Respondent Group Using the Given Information Type*			
	At least once per year		Never	
	Faculty	Admins.	Faculty	Admins.
Placement test scores**	69.3	49.4	23.8	44.9
Enrollment data	87.3	83.6	8.8	14.0
Grades	89.9	61.3	7.1	34.3
Course evaluations	89.4	46.4	5.3	47.6
Measures of student learning other than grades**	54.7	45.5	34.3	47.0
Retention rates**	72.0	65.3	17.5	29.0
Graduation rates**	64.5	64.0	22.7	29.5
Transfer rates**	46.4	50.5	35.6	40.7
Percentage of students successfully completing developmental ed.**	47.8	48.4	37.9	42.9
Financial aid**	35.2	52.6	52.1	39.1
College budget and finances	51.2	75.3	34.9	18.9
Results from external surveys**	41.8	51.7	39.2	36.9
Focus groups or other qualitative data**	40.1	51.5	37.1	33.2
Research by the college**	58.1	68.2	21.5	20.2
Outside research on effective practices	69.0	65.9	16.4	23.4
Data on student achievement gaps**	50.7	49.7	30.8	39.1
Information broken down by students' race or ethnicity**	47.0	58.7	35.6	31.7
Information broken down by students' income levels or receipt of financial aid**	32.2	48.5	51.7	41.1

* "Type of Information Not Available" responses were treated as missing.

** Types of data that are promoted by Achieving the Dream.

Perceived usefulness of data by type

The majority of faculty and administrators surveyed found most of the types of information listed below in Table 2 at least somewhat useful in their jobs. A slightly higher share of administrators than faculty found these types of information at least somewhat useful in their jobs, but the percentages are generally high for both faculty and administrators. Two thirds of the faculty respondents indicated that research reports and other information their college provides are generally helpful to their work as teachers.

Table 2. In your role as a faculty member (administrator), rate the usefulness of the following types of information to your job.

Type of Information	Percentage of Respondent Group Indicating Type of Info is “Somewhat Useful” to “Very Useful”*	
	Faculty	Administrators
Placement test scores	74.1	83.4
Enrollment data	75.1	94.8
Grades	84.7	85.4
Course evaluations	89.9	82.9
Measures of student learning other than grades	70.9	82.0
Retention rates	80.6	89.5
Graduation rates	70.8	87.7
Transfer rates	65.3	83.1
Percentage of students successfully completing developmental ed.	63.7	82.9
Financial aid	41.9	81.8
College budget and finances	50.3	92.9
Results from external surveys	54.0	81.3
Focus groups or other qualitative data	60.4	83.8
Research by the college	66.7	88.6
Outside research on effective practices	79.1	87.6
Data on student achievement gaps	69.3	82.1
Information broken down by students’ race or ethnicity	50.9	80.6
Information broken down by students’ income levels or receipt of financial aid	45.9	80.0

* “Not Applicable” responses treated as missing.

Use of data and research by faculty in teaching-related decisions

As is evident from Table 3 below, the majority of faculty at Achieving the Dream colleges use data and research at least to some extent in decisions related to teaching. Around one in five is a heavy user of data and research for teaching decisions. Only around one in ten use data and research “not at all.”

Table 3. How much do you use data and research on students in your own decisions about the following?

Decision Type	Percentage of Faculty Who Use Data and Research for the Given Decision Type		
	At least some	A lot	Not at all
Curriculum	76.2	18.3	14.1
Teaching practices	82.2	24.2	9.0
Advising students	80.7	23.3	11.3
Identifying students who are struggling academically	78.2	22.3	11.2

Participation in organized discussions on improving student success

The majority of faculty and administrators at Achieving the Dream colleges indicated that they participate at least once a year in organized discussion on improving student success (see Table 4). Fewer participate in discussions about the needs or performance of students of color or of low-income students in particular than about improving academic achievement of students more generally. Approximately one third of faculty respondents indicated that they never participate in discussions about the performance of students of color or low-income students.

In a question not reflected in Table 4, two thirds of faculty respondents agreed that asking faculty members to regularly participate in discussions about data on student outcomes is a good use of their time. Fewer than 20 percent (18%) disagreed with this.

Table 4. How often have you participated in organized discussions at the college on topics related to improving student success?

Topic of Discussion	Percentage of Respondent Group Participating in Discussions on the Given Topic			
	At least once per year		Never	
	Faculty	Admins.	Faculty	Admins.
Improving academic achievement or closing achievement gaps	78.0	63.9	9.5	26.8
Academic needs or performance of students of color	56.2	57.0	26.5	34.4
Academic needs or performance of low-income students	55.9	59.2	26.5	32.4

Use of data by academic departments

Most faculty who responded to the survey indicated that they were in departments that use data and research for programmatic decisions at least to some extent (see Table 5 below). Around one in four were in departments that are heavy users of data to make program decisions. Only a small percentage of the faculty respondents were in departments that do not make use of data and research for such decisions.

In a question not reflected in Table 5, four out of five faculty respondents indicated that their department meets at least one a year to discuss the success rates of students in the courses they teach. A similar majority (80.2%) are in departments that regularly evaluate the effectiveness of new academic programs, projects, or practices.

Table 5. How much does your department use data and research on students in decision-making about the issues below? (Question asked of faculty only.)

Issues	Percentage of Faculty Whose Department Uses Data and Research for Decisions on the Given Topic*		
	At least some	A lot	Not at all
Curriculum	79.2	25.2	11.1
Teaching practices	81.5	22.6	9.6
Tutoring or other academic support	79.4	22.3	10.4
Program planning	83.0	25.5	7.7
Academic program review or evaluation	84.5	27.0	6.9
Long-term strategic planning	80.4	22.4	8.8
Budgeting or resource allocation	71.1	17.6	14.6
Identifying and redesigning high-failure-rate courses	51.8	21.5	15.2

* “Don’t Know” responses treated as missing.

Use of data by college

The survey asked administrators to assess how much their college uses data and research on students in decision-making. As is evident from Table 6 below, the majority of respondents indicated that their college uses data and research on students in decision-making on program and planning issues at least to some extent. A third or more indicated that their college uses data and research extensively. Only a small fraction indicated that their college does not use data and research in decision-making.

In a question not reflected in Table 6, the vast majority of administrators (91.0%) also indicated that their college uses data on student outcomes (e.g., persistence, learning, or degree attainment), not just enrollments, to evaluate academic programs and departments. A similar percentage (92.5%) indicated that each department or division in their college is required to set measurable goals and objectives as part of the planning process. Three fourths (75.3%) of administrators said that budget requests at their college must be supported by evidence that students will benefit as a result.

Table 6. How much does your college use data and research on students in decision-making about the issues below? (Question asked of administrators only.)

Issue	Percentage of Administrators Indicating Their College Uses Data and Research for Decisions on the Given Topic*		
	At least some	A lot	Not at all
Curriculum	88.1	31.6	4.5
Program planning	60.1	32.9	3.6
Academic program review or evaluation	56.6	36.5	3.2
Long-term strategic planning	55.0	38.6	3.2
Budgeting and resource allocation	55.5	36.2	4.2
Identifying areas for improvement at the college	55.4	38.3	2.7

* “Don’t Know” responses treated as missing.

Influence on the use of data

The survey asked administrators about the sources of influence on the use of data by themselves and their colleagues at the college. As shown in Table 7 below, the majority of administrators responding to the survey believed that accreditation, Achieving the Dream, and the college’s senior leadership have had a lot of influence on data use at their institution. A near majority believed that state mandates and other grant programs have had a lot of influence on data use at their college. Only a quarter of administrators indicated that their college’s trustees have had a lot of influence on the use of data.

Table 7. How much influence have the following had in promoting data use by college administrators at your college? (Question asked of administrators only.)

Possible Influences	Percentage of Administrators Indicating the Given Influence Has Had on Data Use at College*		
	At least moderate influence	A lot of influence	No influence
College leadership (chancellor, presidents, vice presidents)	92.9	56.0	2.7
College board of trustees	73.8	25.4	11.9
State mandates	93.5	46.6	2.5
Accreditation reviews	97.2	63.6	1.4
Achieving the Dream	95.9	59.0	2.1
Other grant programs (e.g., Title III)	95.2	45.4	1.9

* “Don’t Know” responses treated as missing.

3.2 Accessibility of Data and Perceived Barriers to Data Use

Sources of data on students

Faculty and administrators at the Achieving the Dream colleges indicated that they use a variety of sources or methods to get information on groups of students (see Table 8 below). About a third of faculty members do searches themselves using their college's student information system or their college's website or fact book. Similar proportions make requests for information to the college's IR or IT offices or use reports distributed by the college. Administrators are even more likely than faculty to search for information themselves, although the largest percentages make requests to IR or use reports from the college. Fewer than one in ten faculty members and one in four administrators indicated that they generally do not need information on groups of students.

Table 8. When I need information about groups of students (i.e., more than one student at a time), I use the following sources. (Respondents were asked to circle all that apply.)

Source	Percentage of Respondent Group Indicating That They Use the Given Source	
	Faculty	Administrators
Searches using the college's student information system	32.9	41.1
Data from the college's website or fact book	30.9	43.2
Reports distributed by the college's institutional research (IR) office or other departments	32.7	50.0
Requests to the IR or information technology (IT) staff	32.1	53.6
My department's database	24.2	29.5
State databases or research reports	22.3	25.4
I generally do not need information about groups of students	9.7	23.1

A majority of faculty and administrators seem satisfied that they are able to access information they need in a timely manner and that the information they receive is accurate (see Table 9 below). About half of faculty respondents (51.8%) indicated that the research reports and other information the college provides to faculty are generally helpful to their work as teachers. Only about a quarter (25.6%, not shown in the table) disagreed with the statement that such information is helpful to them in their teaching roles (the other quarter was neutral, neither agreeing nor disagreeing).

Table 9. To what extent do you agree or disagree with the following statements?

	Percentage of Respondent Group Indicating They “Agree” to “Strongly Agree”	
	Faculty	Administrators
The data in the college’s student information system are generally accurate and error free.	63.9	70.7
The data I need are generally available in a user-friendly format.	57.9	62.1
The college’s institutional research staff is responsive to requests for information.	70.1	77.5
The college’s institutional research staff is adequately staffed for the college’s information and research needs.	49.2	52.9
The reports and other information the college provides to administrators and faculty are typically clear and easy to follow.	62.8	72.3
I am able to obtain the information I need in a timely fashion.	62.4	69.1
The research reports and other information the college provides to faculty are generally helpful to our work as teachers.	51.8	—

* “Don’t Know” and “Not Applicable” responses treated as missing.

Reasons for not using data

As shown in Table 10, about a third of faculty indicated that one reason they do not use data and research is that they are too busy with their teaching responsibilities. Other than that, most faculty seem to have thought that using data and research on students is part of their responsibility as a faculty member and that they have the skills needed to analyze data.

Over 30% of administrators indicated that it is not their responsibility to use data and research on students. This may be because our sample of administrators included some in athletics and other areas where information on students is generally not used. The fact that a similar percentage of administrators indicated that the data available are not relevant to their roles supports this conclusion.

Table 10. I generally do not use data and research on students for the following reasons.

Reason	Percentage of Respondent Group Indicating They “Agree” to “Strongly Agree”	
	Faculty	Administrators
I am too busy with my teaching responsibilities.	32.0	8.7
It is not part of my responsibilities as a faculty member/administrator.	13.4	31.0
I do not have the research skills to understand and use data and research.	16.5	10.6
I do not trust the data that are available.	16.2	11.2
The data that are available are not relevant to my role as a faculty member/administrator.	21.4	31.9

Relevant training

More than a third of faculty (35.2%) said that they have been involved in training or professional development in the past year on institutional research or data analysis, and over half (57.9%) said they have participated in training or development on program evaluation or assessment (see Table 11). This and the corresponding statistics for administrators were higher than we expected.

Table 11. Have you been involved in any training or other professional development in the past year related to the following topics?

Topic	Percentage of Respondent Group Indicating “Yes”	
	Faculty	Administrators
Institutional research and/or data analysis	35.2	37.2
Program evaluation and/or assessment	57.9	40.6

4. Correlates of Data Use by Faculty and Administrators

As is evident from the last section, the survey results reveal considerable variation in the extent to which individual faculty members and administrators at Achieving the Dream colleges use data in their jobs. This section examines factors associated with the tendency of faculty and administrators to use (or not use) student data in their work. The factors examined include, among others, attitudes about data use, perceptions of data accessibility and usefulness, department and college policies, and participation in Achieving the Dream. Similar analyses were conducted on factors associated with the extent to which faculty and administrators participate in organized discussions on ways to improve student achievement.

4.1 Indicators of Data Use

Both the faculty and administrator surveys contained multiple questions about the use of data and participation in organized discussions related to improving student success. To simplify the analysis of factors associated with the behaviors of interest, we created four composite indicators of data use by faculty and administrators.

- 1) Use of data on student outcomes.
- 2) Use of data disaggregated by student race, ethnicity, or income.
- 3) Participation in organized discussions on improving student success.
- 4) Use (by faculty) of data and research in teaching-related decisions.

Appendix A lists the specific survey items used to create each indicator and outlines the method we employed to do so.

Tables 12a and 12b below show the correlations among these four indicators for faculty and administrators respectively. Generally, the correlations among the indicators are fairly strong. Faculty and administrators who use student outcomes data frequently also use disaggregated student data and participate in organized discussions about improving student achievement more frequently. The correlation is somewhat weaker, though still positive, between use by faculty of data in teaching decisions and the indicators of use of outcomes data and participation in discussions about improving achievement.

Table 12a. Correlation matrix of composite indicators of data use for faculty

	1	2	3	4
1	1.00			
2	0.64	1.00		
3	0.44	0.46	1.00	
4	0.44	0.30	0.32	1.00

Table 12b. Correlation matrix of composite indicators of data use for administrators

	1	2	3
1	1.00		
2	0.69	1.00	
3	0.64	0.60	1.00

Key for Tables 12a and 12b:

1. Frequency of use of various sorts of data related to student outcomes.
2. Frequency of use of disaggregated student data.
3. Frequency of participation in organized discussions about improving student achievement.
4. Extent of use by faculty of data to inform teaching-related decisions (faculty survey only).

To get a sense of why some faculty and administrators might use data on student outcomes and engage in discussions about improving student achievement more than others, we calculated the correlations between the four composite indicators of data use described above and various factors that we hypothesized are associated with use of data by the faculty and administrators in our sample. These factors can be grouped in the following categories.

- Involvement in Achieving the Dream
- Perceived usefulness of student data
- Perceived accessibility and quality of student data
- Reasons for not using data
- Attitudes about the potential of students to succeed and the college's responsibility in helping students succeed
- Participation in training on data analysis, assessment, or program evaluation
- Academic department practices on use of data and program evaluation and improvement
- College/administrative department practices and leadership for data-driven decision making and student success
- Influence of external factors in promoting data use by college administrators (administrator survey only)
- Academic program area (for faculty) or administrative functional area (for administrators)
- Length of time at the college, age, and (for faculty) rank
- Respondent's demographics.

See Appendix A for a list of the specific measures examined under each category.

4.2 Findings on Correlates of Data Use

Table 13 presents a summary of findings on the correlation between various factors we hypothesized to be related to data use and the four indicators of data use. Detailed statistics on correlations (for continuous factor measures) and differences of mean responses (for categorical measures) are presented in an Excel document that is available from the authors.

We want to stress that in this analysis we are merely able to examine the *correlation* between particular factors and the indicators of data use. This analysis cannot tell us if the relationship is *causal*. So, for example, although we find that participation in training on data analysis and program assessment is positively correlated with the indicators of data use, this does not necessarily mean that colleges can increase data use by increasing the amount of training provided. It could be that faculty and administrators who are heavier users of data are more likely to seek out training in data use.

In the text that follows the large table below, we examine in more detail the correlations between the various factors and the indicators of data use.

Table 13. Factors correlated with indicators of data use by faculty and administrators: Summary of findings

Hypothesized Correlative Factors	Use of Student Outcomes Data		Use of Data Disaggregated by Race/Ethnicity, Income		Participation in Discussions on Improving Student Success		Use of data and research in teaching decisions	
	Faculty	Admins.	Faculty	Admins.	Faculty	Admins.	Faculty	Admins.
Involved in AtD (Y/N)	SS+	SS+	SS+	SS+	SS+	SS+	SS+	
Believes that AtD will have a lasting impact on the college	+	0	0	0	+	0	+	
Perceives student outcomes data to be useful	++	++	+	+	+	+	++	
Agrees IR is useful to teaching	+		+		+		+	
Perceives college data and research are accessible and responsive	0	0	0	0	0	0	0	
Perceives barriers to use of data	-	--	-	--	-	--	-	
Agrees that participating in discussions about improving student success is good use of time	+		+		+		+	
Believes most students can succeed with adequate support	+	+	0	+	+	+	0	
Believes appropriate for college to give special support to students based on race/ethnicity or income	0	0	0	0	0	0	0	
Believes college needs to try different approaches to helping low- achieving student succeed	0	0	0	0	0	0	0	
Length of time at the college	0	0	0	0	0	0	0	
Rank	SS+		0		0		0	
Age	0	SS+	0	SS+	0	SS+	0	
Gender	0	0	SS+	0	SS+	0	SS+	
Race/ethnicity	SS+	SS+	SS+	SS+	SS+	SS+	SS+	
Participated in training on data analysis (Y/N)	SS+	SS+	SS+	SS+	SS+	SS+	SS+	
Participated in training on program evaluation or assessment (Y/N)	SS+	SS+	SS+	SS+	SS+	SS+	SS+	
Believes department uses data and research in academic decisions	+		+		+		++	

Faculty in department meet at least annual to discuss success rates (Y/N)	SS+		SS++		SS+		SS+	
Department regularly evaluates program effectiveness (Y/N)	SS+		SS+		SS+		SS+	
Faculty program area	SS+		SS+		SS+		SS+	
Faculty has administrator role (Y/N)	SS+		SS+		SS+		SS+	
Administrator functional area		SS+		SS+		SS+		
Administrator also faculty (Y/N)		SS+		SS+		SS+		
Believes college uses data on student outcomes to evaluate programs	+		0		+		+	
Extent of leadership's commitment to data-driven decision making	0	0	0	0	0	0	0	
Perceived clarity of leadership's vision on how to increase student academic success.	0	0	0	0	0	0	0	
Perceived extent of use of data by the college for program-related decisions		0		0		0		
College evaluates effectiveness of educational programs and services (Y/N)		0		0		0		
College uses student outcomes data to evaluate programs (Y/N)		0		0		0		
Extent of collaboration among faculty, administrators and staff on improving programs and services.	0	0	0	0	0	0	0	
College has strategic plan used to guide operational planning (Y/N)		0		SS-		0		
Departments/divisions required to set measurable goals (Y/N)		0		SS-		0		
College requires budget requests to be supported by evidence that students will benefit (Y/N)		0		SS-		0		
Perceived influence of external forces on data use by college		0		0		0		

See next page for Key to cell symbols.

KEY “++” = positive correlation greater than or equal to .40
 “+” = positive correlation between .20 and .40
 “--” = negative correlation greater than or equal to .40
 “-” = negative correlation between .20 and .40
 “SS+” = statistically significant positive difference between respondents responding “yes” to items vs. those responding “no”
 “SS-” = statistically significant negative difference between respondents responding “yes” to items vs. those responding “no”
 “0” = correlation between -.20 and .20 or no statistically significant difference
 Shaded cell = item not asked of given respondent group

Involvement in Achieving the Dream

Faculty and administrators who were involved in Achieving the Dream, either in the core or data teams or in implementing strategies, used data on student outcomes more frequently and participated in organized discussions on improving student outcomes much more frequently than did their colleagues who were not involved in the initiative. This is not surprising given that colleges participating in Achieving the Dream are encouraged to broadly engage faculty, staff, and administrators in examining data on student progression and outcomes, and to work together to design, implement, and evaluate efforts to improve student achievement, particularly among groups of students who have faced barriers to success in the past.

Faculty members participating in Achieving the Dream were much more likely than non-participating faculty to make more frequent use of data that are of particular interest to Achieving the Dream. Thus, for example, the differences between participating and non-participating faculty in the frequency with which they reviewed data on developmental education completion rates and academic achievement gaps are greater than the differences for other student outcomes data for measures that are not central to Achieving the Dream. A similar pattern is evident in the rates of student outcomes data use between participating and non-participating administrators. Participation in Achieving the Dream is also associated with a greater tendency of faculty and administrators to use data disaggregated by race or ethnicity and by income or receipt of financial aid.

We hypothesized that faculty members and administrators who believed that Achieving the Dream would have a lasting impact on college practice would be more likely to use data than would faculty who believed that Achieving the Dream is just another “flavor of the month” whose effects will fade quickly when the grant ends. However, we found only weak correlations (< 0.23) between measures of faculty and administrator opinions about the sustainability of Achieving the Dream and the indicators of data use.

As mentioned above, these results simply show correlation, not causality. Thus, although we found that participation in Achieving the Dream is correlated with greater frequency of data use, we cannot say definitively that involving more faculty and administrators in Achieving the Dream will result in higher rates of data use.

Perceived usefulness of student data

Not surprisingly, faculty and administrators who had positive views about the usefulness of various sorts of student outcomes data (such as learning measures, retention and graduation rates, and achievement gaps) used student outcomes data more frequently than did those who question the usefulness of such data. Faculty who viewed data positively were specifically more likely to use data and research to inform decisions related to their teaching. For faculty, the correlation between the perceived usefulness of student outcomes data and the measure of the use of data in teaching-related decisions is especially strong.

Perceptions of the usefulness of student outcomes data are also correlated with the frequency of participation by faculty and administrators in organized discussions with peers about improving student achievement and the frequency of using data disaggregated by race, ethnicity, or income, but the correlations are weaker than those associated with indicators of the frequency of data use.

Faculty who believed that institutional research is useful to their work as teachers were somewhat more likely to use data and participate in discussions about improving student outcomes than were faculty who thought otherwise, but the correlation is not strong (ranging from 0.21 to 0.34 across the indicators of data use).

Perceived accessibility and quality of data on students

Surprisingly, there is little correlation (< 0.2) between the perceptions of faculty and administrators about whether or not data on students were accurate and accessible and the frequency with which they used data on student outcomes or participated in organized discussions on improving academic achievement. This suggests that faculty and administrators who use data are motivated to do so regardless of whether the data are readily accessible or not. It is also possible that faculty and administrators get their data from the institutional research office and therefore do not have to deal with the issue of data accessibility. However, this explanation alone does not account for the weak correlation between perceptions of accuracy and frequency of data use.

Reasons for not using data

The survey asked faculty and administrators about various possible reasons they might not use data on students, such as being too busy, not feeling responsible for analyzing student data, or not having the skills to do so. For both faculty and administrators, those who felt more strongly about reasons they might not use data were, as expected, less likely to use data as measured by all four indicators.

The reasons most associated with a lower tendency to use data were that using student data was not a job responsibility or that the data were irrelevant to their jobs. This was even more the case for administrators than for faculty. Perhaps this is the result of the fact that we included in our survey all senior level administrators, including those in areas such as athletics and finance, who may have been less concerned with student data as part of their jobs than administrators in academic or student affairs.

Faculty and administrators who indicated that they do not have the skills to analyze data or that they do not trust their college's data were also less frequent users of data, although the correlations are weak. Similarly, faculty who indicated that participating in discussions about improving student success was not a good use of their time were less frequent users of data on all four indicators, although here again the correlation is weak.

Attitudes about the potential of students to succeed and the college's responsibility in helping students succeed

We hypothesized that faculty and administrators would be more likely to use data on students if they believed that their college could actually do much to improve student outcomes and should be doing so. However, we found only a weak correlation between the four indicators of data use and faculty and administrator beliefs about the potential of all students to succeed academically. We found no correlation between the indicators of data use and the extent to which respondents believed that it is appropriate for their college to provide extra help to certain groups of students or felt that they and their colleagues could do more to help students succeed.

Length of time at the college, age, and (for faculty) rank

We hypothesized that junior faculty would be more likely than senior faculty to use data on student outcomes because junior faculty might be more comfortable with technology and because they are still learning what is most effective for them in the classroom. However, the only statistically significant difference we found across the four indicators of data use is that assistant professors used data on student outcomes less frequently than did full professors.

Also contrary to expectation, there does not seem to be a correlation between the length of time faculty members or administrators have been at their college or their age and their use of student data.

Surprisingly, administrators who were over 55 were much more frequent users of student outcomes data than those under 35. Administrators over 55 were also more frequent users of student data disaggregated by race, ethnicity, or income. Administrators over 35 were more likely than those under 35 to participate frequently in organized discussions about improving student achievement. Interestingly, administrators 65 or older were most likely to participate in discussions about improving student achievement.

Gender and race/ethnicity

Female faculty members indicated that they used data and research in teaching-related decisions more frequently than did male faculty members and participated in organized discussions about students more frequently than did their male counterparts. However, there is no statistically significant difference in the frequency with which male and female faculty used data on student outcomes.

White faculty were less likely than non-White faculty to frequently use data on student outcomes, to participate in organized discussions on student achievement, to use data and research in teaching-related decisions, and to use data disaggregated by race, ethnicity, and income. Faculty who classified themselves as Black were more frequent participants in organized discussions on improving student achievement. Black and Native American faculty used data broken out by race, ethnicity, and income more frequently than did faculty of other races and ethnicities. Interestingly, Asian/Pacific Islander faculty used data in teaching-related

decisions more frequently than did faculty of other racial and ethnic groups. It is also notable that there does not seem to be any correlation between Hispanic faculty and use of data.

In contrast to the patterns observed for faculty, White administrators were more frequent users of student outcomes data than were non-White administrators. Hispanic administrators were less likely to participate in organized discussions on improving student achievement than were non-Hispanics.

Participation in training on data analysis, assessment, or program evaluation

Faculty and administrators who had received training or professional development on analyzing data or on program evaluation were, not surprisingly, more likely than faculty members who had not received such training to use data across all the indicators. Again, our analysis only shows correlation, not causality, so it is not necessarily the case that colleges will increase use of data if they train more faculty and administrators on data use and program assessment. That could happen, but it could also be the case that faculty and administrators who are already motivated to use data pursue training that they think will aid them in doing so.

Academic department practices on use of data and program evaluation and improvement

Faculty in academic departments that use data and research in departmental decision making themselves, not surprisingly, used data and research more frequently in teaching-related decisions than did faculty in departments where data-based decision making is not so prevalent. Faculty in departments that use data for decisions more extensively also used data on student outcomes and participated in organized discussions on improving student success, although with these indicators, the correlation with department practices is not as strong.

Similarly, faculty in departments that meet at least once a year to discuss student success rates and that evaluate the effectiveness of programs were more likely to use data as measured by the four indicators employed here. The mean responses indicate that faculty who reported that their departments meet at least once a year to discuss the success rates of their students reviewed and/or used student outcomes data at least once every two to three years, while those in departments that meet less frequently used student outcomes data less frequently. Meeting with colleagues as a department at least once a year, not surprisingly, is correlated with more frequent participation in organized discussions about academic achievement and a greater tendency among faculty to use data and research on students in their own decisions about teaching.

Academic program area (for faculty)

Faculty in general education were on average less likely than faculty in other program areas to use data on student outcomes and to use data and research in decisions related to their teaching on a frequent basis. In contrast, faculty who teach in developmental or for-credit occupational programs were more likely than those in other fields to do so. Developmental faculty members were also significantly more likely to participate in organized discussions on student achievement and to use data disaggregated by race, ethnicity, or income. Adult basic education faculty used data no more frequently than faculty in other areas. Interestingly, even though they

were more likely than faculty in other areas to use data in teaching-related decisions, faculty in for-credit occupational programs were less likely to participate in organized discussions about student achievement or to use data broken down by race, ethnicity, or income. Faculty in non-credit occupational programs used data related to student outcomes more frequently than did faculty in other fields, but there are no statistically significant differences in the rates of data use between these faculty and others on the other three indicators of data use..

Not surprisingly, we found that faculty members who also have administrative roles were more likely than faculty not involved in administration to use data across the four measures.

Administrative functional area (for administrators)

Table 14 below ranks administrative functional areas by the three indicators of data use applicable to administrators. It is not surprising that institutional research administrators were the most frequent data users on all three indicators. Academic affairs administrators were more frequent users of data than were those in student affairs/services. (It is not clear how “academic affairs” differs from “instruction.”) Interestingly, administrators in external affairs were more frequent users of data on student outcomes than were student affairs administrators. External affairs administrators were also more likely to disaggregate data by race, ethnicity, or income than were administrators in both student and academic affairs.

Table 14. Rank of administrative functions by three measures of data use

Rank	Frequency of use of student outcomes data	Frequency of participation in organized discussions on improving student success	Frequency of use of data disaggregated by race/ethnicity or income
1	Institutional research	Institutional research	Institutional research
2	Academic affairs	President’s office	External relations
3	President’s office	Academic affairs	President’s office
4	External relations	Student affairs/services	Academic affairs
5	Career and technical ed.	Instruction	Student affairs/services
6	Student affairs/services	Career and technical ed.	Admissions
7	Instruction	External relations	Career and technical ed.
8	Admissions	Admissions	Instruction
9	Continuing education	Registration	Finance
10	Information technology	Athletics	Continuing education

Interestingly, administrators who also had a faculty role were more likely to use data on all three measures.

College/administrative department practices and leadership

There is only a weak correlation between the various indicators of data use by individual faculty and the extent to which respondents indicated that their college overall uses data on student outcomes to evaluate programs. Even weaker is the correlation between faculty data use and

faculty members' perceptions about the level of commitment by the college's leadership to making decisions based on data and the clarity of the leadership's vision on how to increase student academic success. These findings and the earlier ones about departmental practices suggest that the practices of individual academic departments have a greater bearing on the use of data by faculty members than do those of the college overall.

There is also surprisingly little correlation between the extent to which *administrators* said that their college uses data for program-related decisions and the frequency with which they themselves used data.

Administrators at institutions that evaluate the effectiveness of educational programs and services or that use data on student outcomes to evaluate academic programs and departments used data and engaged in organized discussions about improving student achievement more frequently than did administrators at colleges that do not evaluate programs and services, but the differences are not statistically significant. Similarly, there does not seem to be much correlation between the frequency with which administrators used student outcomes data or engaged in organized discussions on improving student outcomes and whether or not:

- The college has a strategic plan;
- Departments and divisions are required to set measurable goals as part of the planning process;
- The college requires that budget requests be supported by evidence that students will benefit.

Curiously, the three practices above are associated with a *lower* frequency of use among administrators of student data disaggregated by race, ethnicity, or income. It is not clear why colleges with established systems for strategic planning and budgeting would be less likely to use data disaggregated by race or income than would colleges without such systems.

Influence of external factors in promoting data use by college administrators (administrator survey only)

We asked administrators about the extent to which various internal and external influences have promoted the use of data by the college. These included college leadership, board of trustees, state mandates, accreditation reviews, Achieving the Dream, and other grant programs. Surprisingly, there is only a very weak correlation (< 0.1) between administrators' ratings of the influence of these factors on the use of data by administrators at the college and their own use of data.

4.3 Discussion of Correlates

These findings are encouraging for initiatives designed to bring about changes in behavior among members of an institution. Again, while the findings do not establish a causal relationship, we did see a few persistent correlations that are compelling. For example, faculty members and administrators participating in Achieving the Dream were much more likely than non-participating faculty to make more frequent use of data that are of particular interest to

Achieving the Dream. The survey also asked faculty and administrators about various possible reasons they might not use data on students. We found that the reasons most associated with a lower tendency to use data were that using student data was not a job responsibility or that the data were irrelevant to their jobs. Colleges engaged in such an initiative may thus want to discuss the role that reviewing student data plays in faculty and administrators' responsibilities and may want to clarify the ways in which the available data are relevant to various jobs at the college.

Also notable were the differences in frequency of data use on student outcomes, participation in organized discussions on student achievement, use of data and research in teaching-related discussions, and use of disaggregated data by faculty and administrators of different races/ethnicities.

The differences in data use by department, in particular, are interesting. We noted that faculty who teach in developmental or for-credit occupational programs were more likely to use data and research to inform teaching related practices than those in other fields. And we noted that faculty in non-credit occupational programs used data related to student outcomes more frequently than did faculty in other fields. The finding for developmental faculty is consistent with the focus of Achieving the Dream. It may be that the findings for the for-credit occupation programs result from longstanding licensure and certification requirements—data on these credentials may impact what these faculty do in the classroom. Our findings related to non-credit occupational programs may be the result of these faculty acting in a more entrepreneurial and market-oriented fashion as they create course offerings. In doing so, they may rely more heavily on data.

The fact that the correlation between academic department practices and faculty practices was stronger than that between the college's overall use of data and the faculty's use of data was unexpected and requires more exploration. In addition, we hypothesized that we would see a meaningful positive relationship between administrators' use of data and administrators who responded that their college engaged in program evaluation and strategic planning, required the departments and divisions to set measurable goals as part of the planning process, and tied budget requests to evidence that students will benefit. Instead, we found that these practices are associated with a *lower* frequency of use among administrators. Additional analyses are needed to better understand these relationships.

Finally, as we discussed in our methodology section, we selected the states based on a conception that there was significant pressure on the colleges from accrediting agencies and state policy to use data to improve student academic success. We hypothesized that this pressure would drive administrators to use data. However, we found only a very weak correlation (< 0.1) between administrators' ratings of the influence of these factors on the use of data by administrators at the college and their own use of data.

5. Patterns of Data Use by College

In this section, we report on our examination of the amount of data use among the Achieving the Dream colleges in our sample. To do this, we ranked the colleges according to their average scores on the four indicators of data use by faculty and three indicators of data use by administrators. Recall that the indicators of data use that we developed are: 1) use of data on student outcomes; 2) use of data disaggregated by student race, ethnicity, or income; 3) participation in organized discussions on improving student success; and 4) use (by faculty) of data and research in teaching-related decisions. We did a similar ranking by the round in which colleges joined Achieving the Dream (Round 1 or Round 3), and the state in which they are located. Our aim was to determine if there is consistency in the ranking of colleges by the various indicators of data use. If we did find some degree of consistency in the ranking of colleges by these indicators, this would give us confidence to use them as measures of the amount of data use at the institution level. It would allow us to examine the relationship between college-level indicators of the amount of data use and measures of institutional performance. We could also examine the practices of colleges with higher levels of data use by faculty and administrators with those where the amount of data use is lower. To the extent that there is not consistency in the ranking of colleges by these various measures, it would be difficult to use these indicators appropriately for comparison.

In Appendix D, Table D.1.a shows the mean values (after conversion to z-scores) for each college in the sample of the four indicators of data use by faculty and the three indicators of data use by administrators. Note the considerable variation in the mean responses across the colleges.

To facilitate comparison, Table D.1.b presents rankings of the colleges by the mean value of each indicator. Note that College 25 in North Carolina ranks first among the colleges on the first three indicators and fourth on the indicator of the extent to which faculty at the college use data and research in teaching-related decisions. A couple other colleges show some consistency in their ranks across the four indicators. For example, College 19 ranks sixth in the average frequency with which faculty use data on student outcomes; third in the extent to which faculty use student data disaggregated by race, ethnicity, or income; ninth in the frequency of participation by faculty in organized discussions on improving student outcomes; and eighth in the extent to which faculty use data and research in decisions about teaching. At the same time, however, there are many cases where a college's ranking varies considerably across the different indicators. For example, College 34 ranks third on faculty indicator 1, thirty-fifth on faculty indicator 2, thirty-first on indicator 3, and eighteenth on indicator 4.

A similar lack of consistency in rankings is evident across the indicators of data use by administrators. Moreover, the rankings of colleges by the comparable indicators for faculty and administrators also do not in general follow a clear pattern. For example, College 26 ranks second in the indicator of the frequency with which faculty use data on student outcomes and thirty-third on the comparable measures for administrators. This is consistent with the finding from the previous section that there does not seem to be a strong correlation between the extent to which faculty use data and research and their perceptions of the extent to which the college generally uses data for decision making.

Another finding from the previous section is that faculty and administrators who participated in Achieving the Dream are more likely than those who had not participated to use data according to the four indicators. Given this, we hypothesized that colleges where a greater percentage of faculty or administrators were involved in Achieving the Dream would on average exhibit higher rates of data use. From Table D.1.b, we see that College 25 had the highest percentage of faculty respondents who were involved in Achieving the Dream, and it ranks first on three of the indicators of faculty data use. However, College 40 is ranked second in the percentage of faculty respondents who participated in Achieving the Dream, but it ranks thirty-fifth, tenth, eighteenth, and thirtieth, respectively, on the four indicators of faculty data use. A similar lack of rank order consistency is evident between the measures of the extent to which administrators were involved in Achieving the Dream and indicators of data use by administrators.

We hypothesized that it would be easier to engage faculty and administrators in using data for decision making at smaller colleges compared to larger ones because of the challenges of communication and coordination in large organizations. However, as is evident from Table D.1.b, there does not seem to be a clear correlation between institutional size (measured by FTE enrollment) and indicators of data use by faculty and administrators.

Table D.2.a shows the mean institutional-level values for the faculty and administrator indicators by state and by the round in which colleges joined Achieving the Dream. Table D.2.b ranks the states and rounds by the mean values in Table D.2.a.

From these tables we see that colleges in North Carolina rank higher than those from other states in the average values for the first three indicators of faculty data use, but third on the indicator of the extent to which faculty use data on students in teaching-related decisions. The Achieving the Dream colleges in Texas rank highest (on average) on all three indicators of administrator data use. However, there is a fair amount of inconsistency in the ranking of the other states across the various indicators of data use for both faculty and administrators.

The colleges that joined Achieving the Dream in the first round on average exhibit higher rates than those in the third round of data use on all of the faculty and administrator indicators, with the exception of the measure of the extent to which faculty participate in organized discussions on improving student success. This is consistent with the hypothesis that colleges that have been involved in Achieving the Dream longer will be more advanced in their use of data for improving student success. However, these findings are merely suggestive; they cannot be seen as definitive evidence of a causal relationship between Achieving the Dream and more extensive use of data for improvement.

6. Findings from Telephone Interviews

This section presents findings from telephone interviews of faculty and administrators at four of the Achieving the Dream community colleges that participated in the survey. In total, we interviewed 17 faculty members and 25 administrators/staff. The interviewees included a mix of individuals who had and had not been directly involved with the Achieving the Dream initiative. The faculty we interviewed taught either developmental or college-level math or English. The senior administrators we interviewed included, at each college, the senior academic officer, the senior student services officer, the director of institutional research, the Achieving the Dream coordinator, and at least one member of the student services staff.

We analyzed the interview transcripts to look for themes that could further explain the survey findings. In particular, in this section we address data use at the colleges and the connection (or absence of a connection) between strategic planning and budgeting and the use of data by faculty and administrators.

6.1 Use of Data by Faculty and Administrators

In general, the telephone interviews we conducted reinforce the survey findings about the use of data. Faculty and administrators reported that they reviewed and used student outcomes data on a regular basis. In the survey we asked specifically about grades, placement scores, retention rates, transfer rates, and graduation rates. We also asked about research carried out by the college and about college-based or outside research on effective practices. In more open-ended discussions about data use in the interviews, we heard many faculty refer, not surprisingly, to grades and informal in-class assessments of student comprehension of course material as measures of student performance. To a more limited extent, faculty also spoke about using placement scores and scores on other tests to gauge the preparedness of their students and to understand the range of skills they possessed. The administrators we interviewed generally discussed the use of data on enrollments, retention rates, and graduation rates. Administrators also often mentioned data types that we did not ask about in the survey, including information that supports course and faculty scheduling, tracking data on tutoring center usage, and health services statistics.

Faculty interviewees at three of the four colleges reported that they regularly met with colleagues to discuss student achievement in their courses and to compare perceptions and trends about student progression. Two interviewees reported on how such discussions eventually facilitated a change in a specific practice (in one case, the result was a faculty-wide push to improve critical thinking skills among students across the curriculum; in the other case, the result was the prohibition of the use of calculators in developmental math courses). While the evidence used during the discussions that led to these changes reportedly emphasized first-hand observations of students more than numerical data, in both cases placement test scores were also used to understand the level of students who were entering classes.

We heard a range of perspectives on the role of faculty in using student outcomes data. According to the survey results, only 13% of faculty did not use data and research on students because they believed it was not part of their responsibilities. While many faculty interviewees

indeed argued that faculty should be actively involved in data collection and analysis efforts, several remarks made by others suggest that among other faculty there is a strong disinclination to collect or use such data. In one interview, for example, a professor who did not think that the use of data and research was part of a faculty member's responsibilities questioned the value of data, arguing that many faculty members, who as teachers have nearly daily exposure to their students in classroom settings, are in a good position to understand those students' needs without recourse to additional data.

The interview findings suggest that administrators and faculty who sit on committees may be more likely than others to use large-scale surveys and tests. For example, administrator interviewees at two colleges cited the use of internally developed surveys to gather feedback from faculty and students on their opinion of areas needing improvement. Interviewees from three colleges noted the use of external instruments, including CCSSE, Noel-Levitz, or the University of Texas' Learning and Study Strategy Inventory (LASSI),² to identify areas of improvement. Using LASSI data as well as registration and course completion data and grades, one college developed a model of students at risk showing that students who fail or drop out of the same course twice have very low success rates. They then developed a plan requiring that such students see an academic advisor for the provision of additional supports and services prior to registration for additional courses.

It is clear that all four of the colleges involved in the telephone interviews make use of a variety of data sources, but the extent to which they are using data they themselves collect to improve practices varies. We did hear from interviewees at one college about their having implemented evaluations of strategies they pursued and about how they have now acquired preliminary evidence suggesting that their strategies result in improved learning outcomes. Interviewees at another college discussed the goal of using data to inform classroom instruction. They have developed software that allows faculty (who choose to do so) to enter course objectives and whether they meet those objectives. The ultimate impact of having that information and whether it results in changes in classroom practices remains to be seen. We heard little from our interviews with representatives from any of the colleges suggesting that analysis of internally collected data is college-wide.

Three of the four colleges are using "dashboards." These dashboards provide current statistics to senior administrators on academic indicators such as enrollment and retention as well as other kinds of information, including student visits to the college's health services unit for specific reasons. The use of dashboards and fact books as sources of data contributes to a perception held by many of the interviewees that their college has established a culture of evidence. For example, with respect to their fact book, one administrator commented that "it is just a wealth of information for us. Now we are looking at that and saying, 'Okay, I see that our graduation rates have started to slip a little bit.' And we start talking about the data and why and what we can do to maybe change the course of that. So, yes, I would say that 'data-driven' is permeated throughout the college." These dashboards represent a significant change in information access. First, they permit access to a wider range of information to a wider range of people at the college. Second, they provide current, sometimes in real time and sometimes daily, updates of

² LASSI is a tool developed at the University of Texas at Austin that assesses students' "awareness about and use of learning and study strategies related to skill, will and self-regulation components of strategic learning."

key college indicators. Third, they represent a form of data that is “pushed out” to people at the college, rather than having individuals retrieve the information themselves. Clearly, as the quotations above indicate, the dashboards provide information on which administrators can act. Yet it is still unclear whether these dashboards are part of a continuous improvement process that involves resolving issues and evaluating solutions or whether they just provide information on college’s performance that is not systematically used in decision making about the management of programs and services.

In general, the absence of more extensive and more complex data analysis may in part be due to problems of time, resources, and expertise. Although the survey results indicate that only 32% of faculty and only 9% of administrators are too busy to use data and research on students, a number of interviewees made comments about either not having the time to use the considerable amount of data available at the college or not having the expertise. For example, one interviewee expressed interest in comparing the performance of students who have and have not received tutoring in courses that they take after participating in that intervention. However, she has not had the time to pursue this interest.

Interviewees also said that they rely on their institutional research office to help them interpret the data they do receive, although at least one senior administrator at each college reported extracting and analyzing data themselves. A reliance on the IR staff can be problematic because they are generally very busy and may not have the time to help everyone analyze relevant data. Many of the faculty and administrators we spoke with said they did not feel comfortable analyzing data or even know what questions to ask. This is inconsistent with our survey findings in which only 17% of faculty and 11% of administrators indicated not having the skills to analyze data.

6.2 The Relationship Between Strategic Planning and Budgeting and Use of Data

One surprising finding from the survey was the weak correlation between the extent to which administrators and faculty used data on student outcomes and whether or not they indicated that their college overall uses data to evaluate programs or to make program-related decisions. Similarly, the frequency with which administrators used data did not seem to be related to whether or not college departments were required to set measurable goals as part of the planning process or whether or not the college required that budget requests be supported by evidence that students would benefit. We expected that faculty and administrators in colleges where program review, strategic planning, and budgeting are informed by data on students would be more likely to use data themselves. Our telephone interviews suggest a possible explanation why we did not find this to be the case.

The respondents to our telephone interviews indicated that involvement in strategic planning and budgeting is at their colleges generally limited. When faculty and lower-level staff are involved, it seems as though they are still far removed from the final budgeting decisions and setting of priorities. For example, while some colleges use large strategic planning teams that do involve personnel from across the college, it is not clear what influence these teams have on final budget allocations. Another model can be likened to a pyramid in which plans get rolled up to the leadership group, which ultimately makes budget decisions. One interviewee described the

process as follows: “Every two years we develop a set of improvement objectives for every unit, and it sort of pyramids up so that all the units come together with the organizational entity above them and they come up with another prioritized list. And so, ultimately you end up with prioritized lists that are used to get funding. So if you want to get funded in the budget process, you have to show that it’s in your plan, which means you have to show that there’s some data to support the request, ... that’s how it gets linked. So you can’t get funded without a plan.” This college has clearly sought to use data to inform planning and budgeting, but it is not clear how the data inform the final decisions. It may be true that departments and divisions cannot get funded without a plan (and data), but it is not clear what role data play in how funding decisions are made vis-a-vis a number of competing plans.

It is still a challenge for colleges to fully integrate their planning and budgeting processes and use data to support those processes. Although there may be much talk about the use of data to inform budgeting, our interviews suggest that the reality is usually quite different. One administrator interviewee commented that although his college’s administration is trying to tie the budget and strategic planning processes together, “it’s a chore to try to get planning ahead of budgeting.” He added that budgeting has “not aligned itself very well with strategic planning.”

These examples may help explain why the survey findings indicate that there is little correlation between data use by individual faculty and administrators and strategic planning and budgeting by the college. Interviewees at all the colleges stated that they have integrated planning and budgeting so that the two processes do not occur separately and that the college’s priorities direct the budget, but they also qualified those statements, explaining that they were still improving the process and were working on further aligning planning and budgeting.

One area where there was clear consensus on the use of data was in making decisions about hiring practices, mostly as it relates to the ability to fund a new position or to override a restriction in terms of a hiring freeze. Data, such as enrollment trends, are needed to justify a new position or why a vacant position must be filled.

Findings from the interviews suggest that data use for program review is mixed. It appears that there may be a lot of unfocused data use in program reviews. For example, one faculty member commented, “When the committees or departments present the program review, oh my goodness, [there] is so much data in there.... [T]here is too much information. Information overload.... It’s just all these charts....” Another professor said that he didn’t see overall program assessment as his job; he felt that the student outcomes for his courses were where his responsibilities ended.

7. Conclusion

This report presents findings from what is to our knowledge the most extensive survey to date of the use of data and research for decision-making by faculty and administrators at community colleges. It is based on surveys of faculty and administrators at 41 colleges involved with Achieving the Dream as well as telephone interviews with faculty and administrators at four of those same colleges. Achieving the Dream is a national initiative designed to improve outcomes for community college students, particularly those who have traditionally faced barriers to success in college. One of the key principles of Achieving the Dream is that for colleges to improve student outcomes on a substantial scale, they need to engage faculty, administrators, and staff on a wide scale in examining data on how students perform and in using that information to devise strategies for addressing gaps in attainment among student groups. Colleges should seek to build a “culture of evidence” in which decisions about how to organize, manage, and fund instruction and student support services are made based on evidence of what works to promote student success.

The survey showed that relatively high proportions of the faculty and administrators in the Achieving the Dream colleges surveyed used data on student outcomes, and the telephone interviews support this finding. More than half of faculty members reviewed or used data on placement test scores, retention rates, graduations rates, and measures of student learning other than grades at least once a year. About half of faculty and administrators used data on student achievement gaps on an annual basis. About two thirds of faculty and administrators used outside research on effective practices at least annually.

The majority of faculty at the Achieving the Dream colleges surveyed used data and research at least to some extent in decisions related to teaching. And most faculty and administrators surveyed indicated that they participate at least once a year in organized discussions on improving student success. Two thirds of faculty agreed that asking faculty to regularly participate in discussions about data on student outcomes is a good use of their time. Only 13% of faculty members indicated that using data and research on students is not part of their responsibilities as a faculty member, though the telephone interviews suggest that resistance to using data may be strong among some faculty.

The high rate of data use at the colleges surveyed is perhaps not surprising, given their involvement in an initiative premised on the importance of broadly engaging faculty and staff in using data and research to improve the quality of programs and services. Indeed, we found that faculty and administrators who were involved in Achieving the Dream used data on student outcomes more frequently and participated in organized discussions on improving student outcomes much more often than did their colleagues who were not involved in the initiative.

At the same time, not all participants in Achieving the Dream were heavy data users, and more generally, there was considerable variation among individual faculty and administrators in the extent to which they used student data. For example, over a third of faculty never used measures of student learning other than grades or looked at information on students broken down by race or ethnicity, and nearly one third never reviewed data on student achievement gaps. And the

telephone interviews suggest that, despite survey findings that seem to indicate otherwise, many faculty and administrators may feel that they lack the skills to analyze data in ways meaningful to their jobs.

Female faculty members indicated that they used data and research in teaching-related decisions more frequently than did male faculty members, and they participated in organized discussions about students more frequently than did their male counterparts. White faculty were less likely than non-White faculty to use data on student outcomes generally, to use data in teaching-related decisions more specifically, and to participate in organized discussions on student achievement. Faculty who classified themselves as Black and Native American used data disaggregated by race, ethnicity, and income more frequently than did faculty of other races and ethnicities. Interestingly, in contrast to patterns observed for faculty, White administrators were more frequent users of student outcomes data than were non-White administrators. Contrary to expectation, we did not find much of a correlation between a faculty member's rank or the length of time a faculty member had been at the college and the extent to which he or she used data.

We found that the practices of faculty members' departments were more strongly associated with their tendency to use or not use data than were practices and values of the college overall. Not surprisingly, faculty in departments that used data in departmental decision-making and that met frequently as a department to discuss student success rates and evaluate the effectiveness of programs were more likely to use data as measured by the four indicators of data use that we employed. In contrast, there is only a weak correlation between the various indicators of data use and the extent to which respondents indicated that their college overall uses data on outcomes to evaluate programs.

There is also surprisingly little correlation between the extent to which *administrators* said that their college uses data for program-related decisions and the frequency with which they themselves used data. Similarly, there does not seem to be much correlation between the frequency with which administrators used student outcomes data or engaged in organized discussions on improving student outcomes and whether or not their college requires departments and divisions to set measurable goals and objectives as part of the planning process. The telephone interviews suggest that colleges continue to be challenged in their efforts to fully integrate their planning and budgeting processes and encourage widespread use of data to support those processes.

The apparent disconnect between the extent of data use by faculty and administrators and the views and management practices of the college's leadership calls into question a central premise of Achieving the Dream—that commitment by a college's leadership and the way that a college approaches program evaluation, strategic planning, and budgeting are key to encouraging the use of data for improvement by college personnel. Our findings suggest that leadership commitment and a data-oriented approach to institutional management may not be sufficient to encourage faculty and administrators to become more data-oriented in practice. Additional efforts at the department level are probably needed to change the behavior of faculty in particular. Indeed, we found that faculty in developmental education departments and for-credit occupational programs were more frequent users of data than were faculty in other types of departments, particularly those in general education. The greater intensity of data use in developmental education

departments is perhaps not surprising given that improving developmental instruction has been a major focus of Achieving the Dream. The baseline evaluation of the first-round Achieving the Dream colleges found that the vast majority of participating colleges, if not all them, were implementing some sort of strategy aimed at improving developmental outcomes (Brock et al., 2007). It may well be that a similar intensive focus on improving outcomes is needed to change practices and to influence the culture in other types of departments.

In examining the relative extent of data use among the colleges in our sample, we did not find much consistency in the rankings of these colleges by institution-level averages of the various indicators of data use by faculty and administrators. This suggests that colleges in the sample differed in the types of data they emphasized. Contrary to expectation, faculty and administrators at larger colleges were not, on average, heavier users of data than faculty and administrators at smaller colleges.

Although colleges with higher levels of participation in Achieving the Dream by faculty and administrators did not exhibit higher average rates of data use, we did find that colleges that joined Achieving the Dream earlier (in Round 1 rather than Round 3) had higher rates of data use on all but one of the faculty and administrator measures. This is consistent with (although it does not prove) the hypothesis that colleges that have been involved in Achieving the Dream longer are more advanced in their use of data for improving student success. It also suggests that engaging faculty and staff in using data and building a culture of evidence is a complicated process that requires concerted effort over a long period of time.

The findings from this study suggest three broad conclusions and one point for further analysis. First, the survey findings suggest that Achieving the Dream may have had an impact on data use at the colleges. The data use may not be as widespread as had been hoped or as integrated with planning and budgeting functions as might be expected, but the greater use of data on student outcomes by faculty and administrators who are involved in the initiative suggests that an externally originated initiative can bring about changes in practice. This is promising for Achieving the Dream and other initiatives seeking organizational change to improve institutional performance and student outcomes. As mentioned, CCRC and MDRC plan to survey a panel of faculty and administrators who participated in this one again in 2011. This will provide more definitive evidence about whether or not Achieving the Dream is helping to foster increased use of data in decision making.

Second, the findings suggest that producing substantive changes in culture and practice is a long process. The Achieving the Dream initiative began as a five-year effort. Our finding that the Round 1 colleges, which joined in 2004, tended to have higher rates of data use than the Round 3 colleges, which joined in 2006, indicates that several years of effort may be needed before changes in behavior are institutionalized. The follow-up survey planned for 2011 will provide a clearer indication of how long this change process takes.

Third, the apparent disconnect between the extent of data use by faculty and administrators and the views and management practices of the college's leadership suggests that leadership commitment and a data-oriented approach to institutional management may not be sufficient to encourage faculty and administrators to become more data-oriented in practice. Greater emphasis

may be needed at the department level to encourage the use of data for improvement. This implies that the notion of broad engagement in the process of analyzing student data is particularly important, especially for department and division chairs at the college.

Finally, further analysis is needed to better understand the relationship between data use and budgeting and planning efforts. Our finding that colleges with established systems for strategic planning and budgeting were less likely to use data disaggregated by race or income than colleges without such systems is counterintuitive; additional analysis may shed more light on this.

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Appendix A: Methodology for Creating Indicators of Data Use and Correlative Factor Measures

Indicators of Data Use

To create the four indicators of data use, we converted the responses to survey items related to each indicator to z-scores and then averaged the scores for each indicator and respondent.³ So, for example, the value for each survey respondent of the first indicator on the use of student outcomes data was calculated by averaging the scalar variable responses to sub-questions on the frequency of use of data by the respondent on each of the following outcomes: measures of student learning, retention rates, graduation rates, transfer rates, developmental education completion rates, outside surveys such as CCSSE or Noel-Levitz, and student achievement gaps.

The four indicators, along with the items used to create each, are as follows:

1. Use of data on student outcomes

- Frequency of use of data on student outcomes, including:
 - Measures of student learning
 - Retention rates
 - Graduation rates
 - Transfer rates
 - Developmental completion rates
 - Outside surveys such as the Community College Survey of Student Engagement (CCSSE) and Noel-Levitz
 - Measures of student achievement gaps.

2. Use of data disaggregated by student race/ethnicity or income

- Frequency of use of data disaggregated by:
 - Students' race or ethnicity
 - Students' income or financial aid status.

3. Participation in organized discussions on improving student outcomes

- Frequency of participation in organized discussions on:
 - Improving academic achievement or closing achievement gaps
 - Academic needs or performance of students of color
 - Academic needs or performance of low-income students.

³ We also created the indicators using factor analysis. Because the factor scores created through this analysis produced results very similar to the average z-score composite indicators, we decided to use the latter, given their relative simplicity and transparency.

4. *Use (by faculty) of data and research in teaching-related decisions.*

- Use (by faculty) of data and research in decisions related to:
 - Curriculum
 - Teaching methods
 - Advising students
 - Identifying students who are struggling academically.

Correlative Factor Measures

The following are definitions by category of the measures developed for factors we hypothesized to be correlated with use of data and participation in discussions about improving student success by faculty and administrators. Some of these factors are composite measures created by averaging z-scores for each sub-item indicated below each in bullets (in the same way that we created the indicators of data use).

Involvement in Achieving the Dream

- Respondent involved in the Achieving the Dream core or data team (Y/N).
- Respondent involved in implementing Achieving the Dream strategies (Y/N).
- Respondent involved in either way (Y/N).

Perceived usefulness of data related to student outcomes

- Perceived usefulness of data related to student outcomes:
 - Measures of student learning
 - Retention rates
 - Graduation rates
 - Transfer rates
 - Developmental completion rates
 - Outside surveys such as the Community College Survey of Student Engagement (CCSSE) and Noel-Levitz
 - Measures of student achievement gaps.
- Level of agreement about usefulness of IR to teaching (faculty only).

Perceived accessibility and quality of data and research on students

- Perceived accessibility and quality of college data and research:
 - Data are accurate

- Data format is user friendly
- IR is response to requests for information
- IR is sufficiently staffed
- IR reports are clear
- Reports from IR are timely.

Reasons for not using student data

- Extent to which the following are reasons respondent does not use data:
 - Respondent is too busy
 - Not respondent's responsibility
 - Doesn't have the skills
 - Doesn't trust the data
 - Data are irrelevant to respondent's job.
- Level of agreement about whether asking faculty to participate in organized discussions is good use of their time (faculty only).

Attitudes about the potential of students to succeed and the college's responsibility in helping students succeed

- Extent to which respondent believes that with adequate support, most students can succeed academically (as opposed to believing that some students are bound to fail, no matter what the college does).
- Extent to which respondent believes that it is often appropriate for the college to give extra services or help to students on the basis of race, ethnicity, or income (as opposed to believing that it is never appropriate for the college to do so).
- Extent to which respondent believes that s/he and her/his colleagues need to try different approaches to help low-achieving students succeed (versus believing that they are doing all they can to help low-achieving students).

Participation in training on data analysis, assessment, or program evaluation

- Respondent has participated in training or professional development on IR or data analysis (Y/N).
- Respondent has participated in training or professional development on program evaluation or assessment (Y/N).

Academic department practices (faculty survey only)

- Extent to which department uses data and research in decisions regarding:

- Curriculum
 - Teaching practices
 - Tutoring or other academic support
 - Program planning
 - Academic program review or evaluation
 - Long-term strategic planning
 - Budget and resource allocation
 - Identifying and redesigning high-failure rate courses
 - Identifying areas for improvement.
- Faculty in department meets at least once a year to discuss student success (Y/N).
 - Department regularly evaluates effectiveness of programs (Y/N).

College/administrative department practices

- Perceived extent to which college uses data on student outcomes to evaluate programs and practices (faculty survey only).
- Perceived extent of college leadership's commitment to using data to make decisions.
- Perceived clarity of leadership's vision on how to increase student academic success.
- Perceived extent to which college uses data and research in decisions regarding (administrator survey only):
 - Curriculum
 - Program planning
 - Academic program review or evaluation
 - Long-term strategic planning
 - Budget and resource allocation
 - Identifying areas for improvement.
- College evaluates the effectiveness of educational programs and services (Y/N) (administrator survey only).
- College uses data on student outcomes to evaluate academic programs and services (Y/N) (administrator survey only).
- Administrators regularly use data on student outcomes broken down by race/ethnicity and income (Y/N) (administrator survey only).
- Perceived extent to which administrators, faculty, and staff at college work collaboratively to improve programs and services.

- College has a strategic plan that is used to guide operational planning (Y/N) (administrator survey only).
- Departments and divisions required to set measurable goals and objectives as part of the planning process (Y/N) (administrator survey only).
- College requires that budget requests be supported by evidence that students will benefit as a result (Y/N) (administrator survey only).

Influence of external factors in promoting data use by college administrators (administrator survey only)

- Perceived extent of influence in promoting use of data by college administrators of the following factors:
 - College leadership
 - Board of trustees
 - State mandates
 - Accreditation reviews
 - Achieving the Dream
 - Other grant programs.

Academic program area (for faculty) or administrative functional area (for administrators)

- Faculty program area:
 - Developmental
 - General education
 - For-credit occupational
 - Not-for-credit occupational
 - Adult basic education
 - Continuing education
 - Other.
- Faculty member also has an administrative role (Y/N).
- Administrator functional area:
 - Academic affairs
 - Admissions
 - Athletics
 - Business and industry
 - Career and technical education
 - Continuing education
 - External relations
 - Finance

- Human resources
 - Institutional research/effectiveness and planning
 - President's office
 - Registration
 - Student affairs/services
 - Other.
- Administrator also a faculty member?

Length of time at the college and rank (for faculty)

- Length of time at the college:
 - Less than 1 year
 - 1 to 5 years
 - 6 to 10 years
 - More than 10 years.
 -
- Rank (for faculty only):
 - Full professor
 - Associate professor
 - Assistant professor
 - Instructor (full-time)
 - Instructor (part-time or adjunct).

Respondent demographics

- Age.
- Gender.
- Race/ethnicity.

Appendix B: Response Rate by College

College	Faculty Response and AtD Involvement			Administrator Response and AtD Involvement		
	Response rate (%)	Involved in AtD (%)	Not involved in AtD (%)	Response rate (%)	Involved in AtD (%)	Not involved in AtD (%)
College 1	73%	33%	67%	75%	67%	33%
College 2	63%	40%	60%	80%	50%	50%
College 3	64%	47%	53%	71%	100%	0%
College 4	54%	39%	61%	70%	57%	43%
College 5	67%	54%	46%	75%	67%	33%
College 7	74%	15%	85%	93%	52%	48%
College 8	58%	46%	54%	79%	64%	36%
College 9	46%	40%	60%	67%	46%	54%
College 10	37%	22%	78%	49%	57%	43%
College 11	74%	54%	46%	79%	28%	72%
College 12	51%	37%	63%	77%	33%	67%
College 13	64%	9%	91%	82%	91%	9%
College 14	44%	34%	66%	66%	28%	72%
College 15	83%	49%	51%	68%	47%	53%
College 16	61%	36%	64%	77%	42%	58%
College 17	74%	52%	48%	88%	57%	43%
College 18	61%	35%	65%	57%	17%	83%
College 19	66%	56%	44%	92%	92%	8%
College 20	67%	47%	53%	77%	78%	22%
College 21	69%	42%	58%	87%	45%	55%
College 22	45%	32%	68%	61%	53%	47%
College 23	42%	26%	74%	57%	40%	60%
College 24	71%	90%	10%	85%	82%	18%
College 25	58%	30%	70%	72%	40%	60%
College 26	85%	76%	24%	91%	80%	20%
College 27	55%	38%	63%	78%	57%	43%
College 28	81%	33%	67%	85%	18%	82%
College 29	75%	61%	39%	89%	60%	40%
College 30	71%	62%	38%	82%	72%	28%
College 31	64%	56%	44%	93%	54%	46%
College 32	67%	33%	67%	71%	55%	45%
College 33	46%	26%	74%	81%	60%	40%
College 34	54%	38%	62%	83%	69%	31%
College 35	53%	51%	49%	80%	83%	17%
College 36	66%	35%	65%	77%	40%	60%
College 37	67%	33%	67%	78%	49%	51%
College 38	62%	35%	65%	59%	29%	71%
College 39	76%	30%	70%	87%	33%	67%
College 40	75%	77%	23%	91%	57%	43%
College 41	74%	46%	54%	80%	52%	48%

Appendix C: Demographics of Respondents

Table C.1: Gender breakdown

Faculty			Administrators		
Male	Female	Total	Male	Female	Total
43.58%	56.42%	2382	37.96%	62.04%	1,562

Table C.2: Faculty respondents program type (respondents could select all that apply)

Program Type							
Academic Transfer/ GE	Adult Basic Ed	Continuing Education	Developmental	For-credit Occupational	Non-credit Occupational	Other	Total
62.33%	6.08%	4.58%	17.71%	29.25%	2.92%	9.63%	2400

Table C.3: Administrator respondents functional area

Functional Area							
Academic Affairs	Admissions	Athletics	Business and Industry Services	Career and Technical Education	Continuing Education	External Relations	Finance
13.24%	2.86%	6.40%	2.93%	5.09%	4.90%	1.78%	6.94%

Table C.3 Cont'd

Functional Area								
Human Resources	Information Technology	IE/IR	Instruction	President's Office	Registration	Student Affairs/Services	Other	Total
2.55%	7.13%	3.37%	6.81%	4.20%	1.46%	17.50%	18.59%	1571

Table C.4: Respondents length of time at the college

Faculty					Administrators				
Less than 1 year	One to five years	Six to 10 years	More than 10 years	Total (N)	Less than 1 year	One to five years	Six to 10 years	More than 10 years	Total (N)
1.83%	26.52%	22.44%	49.21%	2406	6.39%	26.77%	21.84%	45.00%	1580

Table C.5.a: Faculty race/ethnicity (respondents could select all that apply)

Faculty						
Hispanic/Latino/ Spanish	White	Black	Asian or Pacific Islander	American Indian or Alaskan Native	Other	Total
12.26%	79.68%	8.16%	3.42%	2.31%	10.08%	2342

Table C.5.b: Administrator race/Ethnicity (respondents could select all that apply)

Administrators						
Hispanic/Latino/ Spanish	White	Black	Asian or Pacific Islander	American Indian or Alaskan Native	Other	Total
14.62%	78.00%	12.33%	2.73%	1.30%	7.59%	1541

Table C.6: Faculty rank

Full Professor	Associate Professor	Assistant Professor	Instructor (Full-time)	Instructor (Part-time or adjunct)	Total
19.94%	16.05%	17.80%	45.25%	9.60%	2,387

Appendix D: Tables on Patterns of Data Use by College

Table D.1.a: Indicators of data use: Mean z-scores by college

College	AtD Round	State	Involvement in AtD		Data Use Indicators: Faculty				Data Use Indicators: Administrators		
			Full-time Faculty (%)	Administrators (%)	Indicator 1: Use of outcome data	Indicator 2: Use of disaggregated data	Indicator 3: Partic. in organized discussions	Indicator 4: Use in teaching decisions	Indicator 1: Use of outcome data	Indicator 2: Use of disaggregated data	Indicator 3: Partic. in organized discussions
College 9	1	FL	40%	46%	0.16	0.09	0.15	0.17	0.16	0.26	0.19
College 23	1	FL	32%	53%	0.06	0.02	0.32	0.37	0.58	0.49	0.30
College 37	1	FL	33%	49%	0.01	0.05	0.11	0.10	0.10	0.05	0.21
College 18	1	NC	52%	57%	0.06	0.07	0.01	0.19	0.15	0.09	0.12
College 21	1	NC	47%	78%	0.10	0.19	0.14	0.28	0.56	0.37	0.65
College 25	1	NC	90%	82%	0.35	0.51	0.83	0.32	0.06	0.34	0.09
College 39	1	NC	30%	33%	0.08	0.06	0.26	0.01	0.06	0.16	0.20
College 13	1	NM	9%	57%	0.06	0.21	0.18	0.03	0.01	0.22	0.03
College 17	1	NM	38%	57%	0.22	0.26	0.09	0.30	0.25	0.08	0.08
College 32	1	NM	33%	55%	0.01	0.07	0.08	0.05	0.11	0.18	0.01
College 38	1	NM	35%	29%	0.19	0.08	0.48	0.23	0.05	0.13	0.28
College 1	1	TX	33%	67%	0.10	0.05	0.67	0.11	0.12	0.09	0.40
College 2	1	TX	40%	50%	0.00	0.28	0.18	0.17	0.27	0.05	0.81
College 3	1	TX	47%	100%	0.14	0.21	0.09	0.04	0.46	0.55	0.92
College 4	1	TX	39%	57%	0.07	0.12	0.25	0.01	0.38	0.18	0.68
College 5	1	TX	54%	67%	0.11	0.01	0.01	0.10	1.05	1.16	1.31
College 8	1	TX	46%	64%	0.14	0.25	0.19	0.15	0.28	0.32	0.42
College 14	1	TX	34%	28%	0.09	0.12	0.14	0.06	0.33	0.58	0.25
College 19	1	TX	35%	17%	0.19	0.29	0.26	0.23	0.38	0.46	0.64
College 20	1	TX	56%	92%	0.03	0.17	0.13	0.03	0.19	0.12	0.30
College 24	1	TX	26%	40%	0.12	0.08	0.11	0.10	0.04	0.14	0.09
College 34	1	TX	38%	69%	0.25	0.04	0.09	0.11	0.47	0.40	0.77
College 35	1	TX	51%	83%	0.05	0.12	0.17	0.01	0.48	0.42	0.53
College 15	1	VA	49%	47%	0.11	0.25	0.07	0.14	0.08	0.32	0.44
College 27	1	VA	76%	80%	0.13	0.13	0.21	0.32	0.31	0.06	0.12
College 29	1	VA	61%	60%	0.15	0.05	0.11	0.22	0.27	0.28	0.01

College 30	1	VA	62%	72%	0.10	0.12	0.20	0.68	0.01	0.11	0.16
College 10	3	PA	22%	33%	0.04	0.17	0.13	0.01	0.29	0.29	0.35
College 11	3	PA	54%	91%	0.03	0.22	0.02	0.19	0.08	0.11	0.22
College 12	3	PA	37%	28%	0.05	0.03	0.15	0.13	0.16	0.02	0.29
College 16	3	PA	36%	42%	0.18	0.17	0.06	0.02	0.14	0.09	0.21
College 26	3	PA	30%	40%	0.25	0.23	0.15	0.08	0.08	0.17	0.06
College 28	3	PA	33%	18%	0.02	0.03	0.30	0.08	0.10	0.20	0.17
College 40	3	PA	77%	57%	0.02	0.23	0.17	0.04	0.15	0.05	0.06
College 7	3	WA	15%	52%	0.03	0.21	0.03	0.09	0.01	0.21	0.40
College 22	3	WA	42%	45%	0.01	0.31	0.33	0.04	0.21	0.56	0.50
College 31	3	WA	56%	54%	0.07	0.01	0.27	0.09	0.19	0.04	0.48
College 33	3	WA	26%	60%	0.18	0.07	0.21	0.16	0.23	0.56	0.45
College 36	3	WA	35%	40%	0.12	0.29	0.36	0.07	0.03	0.04	0.25
College 41	3	WA	46%	52%	0.12	0.11	0.08	0.00	0.14	0.06	0.36

Key:

Small	Less than 2000
Medium	2000 – 9000
Large	Greater than 9000

Table D.1.b: Indicators of data use: Ranking of Achieving the Dream colleges by mean z-scores

College	Round	State	Involvement in AtD		Data Use Indicators: Faculty				Data Use Indicators: Administrators		
			Full-time Faculty (%)	Administ rators (%)	Indicator 1: Use of outcome data	Indicator 2: Use of disaggregated data	Indicator 3: Partic. in organized discussions	Indicator 4: Use in teaching decisions	Indicator 1: Use of outcome data	Indicator 2: Use of disaggregated data	Indicator 3: Partic. in organized discussions
College 9	1	FL	18	35	9	25	22	12	21	16	28
College 23	1	FL	33	37	26	38	6	2	2	6	19
College 37	1	FL	29	15	39	32	27	20	28	37	25
College 18	1	NC	10	7	28	28	40	10	23	30	31
College 21	1	NC	13	15	19	15	24	6	3	10	6
College 25	1	NC	1	12	1	1	1	4	33	11	34
College 39	1	NC	34	4	23	31	10	37	34	23	27
College 13	1	NM	40	40	27	12	16	34	38	17	38
College 17	1	NM	21	30	4	6	32	5	15	32	35
College 32	1	NM	29	15	37	29	33	29	27	20	40
College 38	1	NM	25	25	5	26	3	7	35	25	21
College 1	1	TX	29	11	20	34	2	19	26	31	14
College 2	1	TX	18	24	40	5	17	13	14	35	3
College 3	1	TX	13	21	11	13	30	31	6	5	2
College 4	1	TX	20	31	24	22	11	38	8	21	5
College 5	1	TX	8	15	18	39	39	22	1	1	1
College 8	1	TX	15	28	12	8	15	15	12	13	13
College 14	1	TX	28	7	22	23	23	28	9	2	22
College 19	1	TX	25	26	6	3	9	8	7	7	7
College 20	1	TX	6	19	33	17	26	33	19	26	18
College 24	1	TX	36	39	15	27	29	21	36	24	33
College 34	1	TX	21	31	3	35	31	18	5	9	4
College 35	1	TX	11	33	30	20	19	39	4	8	8
College 15	1	VA	12	2	17	7	35	16	30	12	12
College 27	1	VA	3	1	13	19	12	3	10	34	32
College 29	1	VA	5	5	10	33	28	9	13	15	39
College 30	1	VA	4	12	21	21	14	1	39	27	30
College 10	3	PA	38	34	31	16	25	36	11	14	17

College 11	3	PA	8	21	34	11	38	11	32	28	24
College 12	3	PA	23	38	29	36	20	17	20	40	20
College 16	3	PA	24	26	7	18	36	35	25	29	26
College 26	3	PA	34	28	2	9	21	26	31	22	36
College 28	3	PA	29	3	36	37	7	25	29	19	29
College 40	3	PA	2	5	35	10	18	30	22	36	37
College 7	3	WA	39	7	32	14	37	24	40	18	15
College 22	3	WA	17	14	38	2	5	32	17	3	9
College 31	3	WA	6	21	25	40	8	23	18	39	10
College 33	3	WA	36	35	8	30	13	14	16	4	11
College 36	3	WA	25	19	14	4	4	27	37	38	23
College 41	3	WA	15	7	16	24	34	40	24	33	16

Table D.2.a: Indicators of data use: Mean z-scores by state and Achieving the Dream round

State/ Round	AtD Round	Data Use Indicators: Faculty				Data Use Indicators: Administrators		
		Indicator 1: Use of outcome data	Indicator 2: Use of disaggregated data	Indicator 3: Participation in organized discussions	Indicator 4: Use in teaching decisions	Indicator 1: Use of outcome data	Indicator 2: Use of disaggregated data	Indicator 3: Participation in organized discussions
FL	1	0.08	0.06	0.19	0.21	0.28	0.27	0.23
NC	1	0.15	0.21	0.31	0.20	0.21	0.24	0.26
NM	1	0.12	0.16	0.21	0.15	0.11	0.15	0.10
TX	1	0.11	0.15	0.19	0.09	0.37	0.37	0.59
VA	1	0.12	0.14	0.15	0.34	0.17	0.19	0.18
PA	3	0.08	0.15	0.14	0.08	0.14	0.13	0.20
WA	3	0.09	0.17	0.21	0.07	0.13	0.25	0.41
Round 1	—	0.11	0.15	0.20	0.17	0.27	0.28	0.37
Round 3	—	0.09	0.16	0.17	0.08	0.14	0.19	0.29

Table D.2.b: Indicators of data use: Ranking of Achieving the Dream states and rounds by mean z-scores

State/ Round	AtD Round	Data Use Indicators: Faculty				Data Use Indicators: Administrators		
		Indicator 1: Use of outcome data	Indicator 2: Use of disaggregated data	Indicator 3: Partic. in organized discussions	Indicator 4: Use in teaching decisions	Indicator 1: Use of outcome data	Indicator 2: Use of disaggregated data	Indicator 3: Partic. in organized discussions
FL	1	7	7	4	2	2	2	4
NC	1	1	1	1	3	3	4	3
NM	1	2	3	3	4	7	6	7
TX	1	4	5	5	5	1	1	1
VA	1	3	6	6	1	4	5	6
PA	3	6	4	7	6	5	7	5
WA	3	5	2	2	7	6	3	2
Round 1	—	1	2	1	1	1	1	1
Round 3	—	2	1	2	2	2	2	2